DOCUMENT RESUME

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ABSTRACT

A program of pre-postsecondary instruction in engineering and health occupations for grades 11 and 12 was developed and implemented at Firestone High School from June 1974 to July 1975. It was designed to be compatible with high school graduation requirements and offer experiences related to postsecondary education that would lead to a paraprofessional or professional goal. The main features of the program were the "hands-on" experiences, career planning, and a broad educational foundation based on the student's career objectives. The activities were designed to provide the students with an understanding of careers related to the program offering, to introduce them to the personal and educational requirements of their choices, and to promote understanding and acceptance of their abilities and aptitudes in light of future occupational aspirations. Field experience comprised a large part of the curriculum. The engineering segment of the program is touched on briefly (2 pages) while the body of the document (60 pages) consists of a curriculum guide of health occupation learning activities developed by the project. Organized into a 36-week continuum of second year activities, the curriculum materials outline developmental and behavioral objectives, student assignments, and activities designed to introduce the student to the varied career opportunities in the medical fields. (Author/NJ)

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COVER PAGE

Title of Project:	Development of Pre-Postsecondary Education Programs in Engineering and Health Occupations for High School Students in Grades 11 and 12
Applicant Organization:	Akron City School District 70 North Broadway Akron, Ohio 44308
Initiator:	Lloyd W. Dull Lloyd W. Dull, Assistant Superintendent Akron City School District 70 North Broadway Akron, Ohio 44308 216-434-1661
Projector Director:	William Tenney William Tenney, Director of Secondary Education Akron City School District 70 North Broadway Akron, Ohio 44308 216-434-1661
Transmitted by:	Conrad C. Ott Conrad C. Ott, Superintendent Akron City School District 70 North Broadway Akron, Ohio 44308 216-434-1661
Duration of Activity:	July 1, 1974 - June 30, 1975
Purpose of Grant or Contract:	The development and continuation of the pre-postsecondary educational programs.
Use of Funds:	The development and continuation of the pre-postsecondary educational programs.
Total Funds Expended:	$40,000.00

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VT-102-325

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ABSTRACT

Problem

Just as a vocational education program could not satisfactorily prepare all students for a diversity of vocations, it is becoming obvious that the college preparatory program cannot satisfactorily prepare all students for a variety of postsecondary occupational programs. A need exists to offer students in grades 11 and 12 a diversity of educational programs to prepare students for jobs, post-secondary occupational programs, or a baccalaureate program.

The problem is to implement pre-postsecondary education programs in engineering and health occupations for students in grades 11 and 12.

Statement of Ojbective

To develop and implement a two-year educational program which will provide 22.5 hours per week of pre-postsecondary instruction in the fields of engineering and health occupations for high school students in grades 11 and 12 which would be compatible with high school graduation and possess experiences related to postsecondary education toward achievement of a para-professional or professional goal.

Activities

To evolve active career learning experiences in a wide variety of occupations within the field of health and engineering within the bounds of the curriculum.

To evolve work related curriculum entries for an application of basic skills.

To provide purposeful occupational explanation through on-site visitation, speakers, and suitable career supplementary materials.

To provide in-service education for involved staff in order to reinforce career concepts, improve teaching techniques and develop curriculum guides.

To examine and improve the counseling and guidance component.

Techniques of Evaluation

Periodic evaluation of the program was submitted by the involved staff. Up-to-date statistical and narrative details were also recorded. A third party evaluation was conducted and reports to be submitted by Kent State University.

Contribution to Education

Improvement and expansion of the current Pre-Postsecondary Engineering and Health Occupation Programs.

NARRATIVE

Statement of Problem

Youth today is experiencing constant contacts with technological and economical changes. No longer are young people in the teenage group residing in a vacuum of the ever-changing environment. Youth of yesterday was not required to accept an approach to occupations until the end of his high school career or even upon entrance to an institution of higher learning. Normally the occupations were available for his matriculation and thus latent choices were apropros. That concept has changed to one of accepting diversity of interest and finally a selection through motivating factors encouraged by complimenting this interest through high school.

Those students who have engendered a desire to taste the fruits of a professional or technical career are often side tracked during their high school years due to a compressed or limited curricula designed to meet state standards. The fragmentation of the curriculum through irrelevant courses tends to subvert the interest or motivation of those students toward a career goal.

Career Education has brought this into the foreground of education. Today the preparation of youth for careers and work must have greater resources and a much more diversified curriculum.

As Sidney Marland indicates, students see academic and career preparation as an integral part of their educational expectations . . . students ask first for career guidance so they do not go through a program only to find the job market for their specialized skill all but closed five years earlier.

Powell and Bloom (1963) working with 900 students in the 10th, 11th and 12th grades concluded that youth are frustrated in the intelligent selection of vocations due to a lack of knowledge of vocational fields that in spite of the emphasis on guidance in school. American College Testing Program (1973) conducted a nationwide survey of career development which involved 32,000 students in grades 8, 9, and 11. Over one-half of the 11th grade students (56%) indicated that they had little or no career planning via discussions with counselors. Also, their lack of knowledge of the world of work and the career planning process testifies to the need for help. Hannah and Kasanas (1974) indicated that "in today's technological society, people, especially young people, find it increasingly more difficult to find 'their place' in society. The place where they can be happy, satisfied, productive and worthwhile members of society. In our society, education is the process which has been established to prepare youth for their adult lives, and educators have been charged with the responsibility of helping young people choose, prepare for, find and progress in their role in society."

In the summary of their article they state that "the results of this study indicated that twelfth grade college preparatory and vocational-technical education students differ significantly in their perceptions of the work value orientation. It was further pointed out that these students with different demographic characteristics differ significantly in their perceptions of the meaning of work and work value orientation . . .therefore, further research is needed in this area to enable school administrators, counselors and teachers involved in career education to better assist students to find 'their place' in our society where they can be happy, satisfied, productive and worthwhile citizens."

Just as one vocational education program could not satisfactorily prepare all students for a diversity of vocations, it is becoming obvious that the college preparatory program cannot satisfactorily prepare all students for a variety of postsecondary occupational programs. A need exists to offer students in grades 11 and 12, a diversity of pre-postsecondary educational programs which will increase the self-awareness of each student, develop in each student a favorable attitude about the personal, social, and economic significance of work, and assist each student in developing and practicing appropriate career decision making skills which will provide job preparation in a wide variety of vocational areas. Special emphasis should be on the utilization of work experience and cooperative education opportunities for all students and which will insure the placement of all in (a) a postsecondary occupational program or (b) a baccalaureate program.

The problem is to develop and implement a pre-postsecondary educational program. The program at Firestone High School has accomplished this task in two career areas - that of engineering and health occupations for grades 11-12.

Program Objectives

The second year of the two year instructional program involved 21 students and provided 22.5 hours per week of pre-postsecondary instruction in the fields of engineering and health occupations for students in grades 11 and 12 and had the following objectives:

a. To provide for a liberal arts approach through "hands-on" experiences peculiar to vocational education.

b. To provide for career planning at the 11-12 grade levels.

c. To foster career interest in engineering and health occupations.

d. Develop in each student favorable attitudes about the personal, social, and economic significance of work.

e. To provide a broad educational foundation based upon the students' career objectives rather than the curriculum approach practiced in the traditional comprehensive high school.

Description of Program Activities

The program continued in operation at Firestone High School with two teachers with backgrounds in education, engineering and health. Students were selected into the program during their junior year with a committee appointed by the Superintendent of schools to review applications of interested students and make the selections. (See Appendix I) The program was made available to all eleventh grade students in the Akron Public Schools with 52 applying and accepted into the program.

The teachers involved in program implementation received support and assistance from the Director of Secondary Education, curriculum specialists in mathematics and science and the Coordinator of Career Education. The mentioned group continued working as a team in implementing the program. In addition, the advisory committee on Engineering and Health, (See Appendix II) continued to provide assistance to the educational staff through suggestions related to the type of learning experiences both academic and career oriented that the program should attempt to provide.

During the course of the year, an average of one period per day was devoted to mathematics fundamentals, principles and concepts. An average of one and one-half periods were devoted to the study of organic and inorganic chemistry while English and Social Studies integrated and related to the students' career exploration activities conducted during the balance of the time. Field experience portions of the Pre-postsecondary Program comprised a large portion of the curriculum. (See Appendix III) The activities were designed to provide the students with an understanding of the respective careers related to the program offering, to introduce the students to the personal and educational requirements of their tentative choice and to promote student understanding and acceptance of his abilities, interests and aptitudes in light of future occupational aspirations. In particular, the field experience centered around four activities. The first was to provide the student with specific understanding of the profession that he envisions entering. This would include a one to one correspondence between him and a practicing professional or technician. Secondly, the field experience provided the student with contact with other professionals in the same career cluster area in order to give the perspective of the whole occupational area. This included visits to personnel outside of his specific area of interest. The third type of experience centered on application of work that students had or would perform in the classroom. For example, when the student had studied cells, and cell division, visitation would be made to the American Cancer Society or to a cancer research laboratory. Finally, there were activities with colleges and professional schools that the students expressed an interest in attending.

Each student prior to a field experience would have to become involved in preliminary activities, along with the teacher. Objectives would be defined as well as follow-up classroom activities related to the goals of the program. In addition to the field experiences, special projects providing experience centered learning were developed and implemented such as:

a. Classroom demonstrations and discussions with personnel from a variety of health and engineering backgrounds.

b. Individual and group laboratory experience related to mathematics, chemistry and physics studies, and their practical applications in health and engineering. A laboratory was constructed this past year which provided students with suitable equipment for laboratory activities. (See Appendix IV blue print.)

c. Visits to university health and engineering facilities with discussions taking place with students and instructors.

d. Practical experiences with local hospitals, public and private health facilities and local industries. These ventures were planned by both students and teachers.

Techniques of Evaluation of Objectives

There was no attempt to conduct a structural evaluation by the Akron Public Schools this past year since Kent State University, Department of Vocational Education received a grant to conduct a third party evaluation of the Pre-Postsecondary Program. An informal evaluation process was however, constant. A substantial number of students in the engineering program left the program to return to regular school

process. The counselors in questioning these students prior to their departure, concluded that most of them did not wish to pursue the engineering program because of one or more of the following: (1) as a result of the programs, they received sufficient insight that prompted them to reject engineering and pursue another occupational area, (2) as a result of the program, students determined their aptitudes, interest and personality traits were not adequate to pursue successfully the engineering field, (3) one or two believed that they could acquire better preparation for engineering in a traditional educational setting.

The health class had very few students return to the traditional classroom. The ones that did, were basically for the same reasons mentioned for engineering. A very high percent of the students completing the two year health program wish to pursue further education and job skills within the health area. A number have applied to medical schools, planning to attend nursing school or planning to enroll in a two year associate medical technologist program.

Contribution to Education

In reality, college preparatory high school programs at the present time, are subject centered in content. Although the Pre-Postsecondary Program at Firestone High School has come to an end, the model, methodology, procedures and program philosophy will be transmitted to the new Central-Hower High School that will be opened in September, 1975. The total curriculum for all non-vocational students will be structured around six broad cluster areas that will provide career exploration and preparation in technical, managerial and professional areas. Academic studies will be meshed into a core program spanning three to four periods per day. (See Appendix V. Brochure on Central-Hower)

As a result of participation in the Career Pre-Postsecondary Program, the commitment of the Akron Public Schools for job centered learning and Career Education has greatly increased as indicated ty the recently revised goals and philosophy of the Akron Public Schools which states clearly and visibly that career development must be incorporated into the total structure.

APPENDIX B

PROGRAM OR PROJECT EXPENDITURES

Title of Program or Project: PRE-POSTSECONDARY PROGRAM R-1-75

Applicant Organization: AKRON CITY SCHOOLS

Beginning and Ending Dates: July 1, 1974 through June 30, 1975

Category of Expenditure	1974 1975 STATE FUNDS	LOCAL FUNDS	TOTAL
1. Personnel (position titles; percent of time on project and yearly salary; for consultants, number of days and rate)	2 Teachers 100% ea. $ 14,632.55 11,967.09	$ 4,450.00	$ 31,049.64
2. Employee Benefits (itemize benefits such as social security, retirement, group insurance, etc.) Ret.	3,338.19		3,338.19
Wk.Comp.	53.16		53.16
Un.Comp.	43.16		43.16
Hosp.	1,228.32		1,228.32
3. Travel (in and out-of-state for regular and consultant personnel; fares and/or mileage at allowable rate; number of days per diem and rate)	----		----
4. Supplies and Materials (describe) Science (Medical & Engr.)	5,935.35		5,935.35
5. Communications (itemize postage, telephone, etc.)	----		----
6. Services: a. Duplication and Reproduction b. Statistical c. Testing d. Other	----		----
7. Final Report - (fifteen copies)			
8. Equipment (rental; small, essential items may be purchased if less expensive)	----		----
9. Other Direct Costs (itemize) Leasing Costs	1,748.53		1,748.53
Maintenance of Plant & Insurance	360.00		360.00
10. Indirect Cost (if any, give basis on which local overhead is computed, who established the rate and when.)	----		----
11. Total Expenditures	$ 39,306.35	$ 4,450.00	$ 43,756.35

AKRON PUBLIC SCHOOLS

PRE-POST SECONDARY PROGRAMS

APPLICATION FOR ADMISSION

Name _____ Date _____
(Last) (First) (Initial)

Address _____ Telephone _____

Birthday _____ Age _____
(Month) (Day) (Year)

Name of Parent or Guardian _____

Present School _____

Program Interest: Engineering ☐ Health ☐

Specific Interest (Example: civil engineer, dentist) _____

_____

School Activities: _____

_____

Other Activities: _____

_____

Briefly explain why you wish to be accepted in this program. _____

_____

_____

_____

_____

It is understood that upon acceptance in this program that the applicant will attend the assigned school for the school year and provide his or her own transportation.

_____ _____
(Signature of Applicant) (Signature of Parent or Guardian)

When finished, return the application to your counselor.

COUNSELOR: After the student has completed the application, please have one of his/her present or former Mathematics or Science teachers rate the student.

Name of Counselor _____ School _____

The Career Education Department has requested that you rate _____

for possible acceptance into the Pre-Post Secondary Program. Please indicate your observations (with an X) of his performance in your class. Please return this CONFIDENTIAL REPORT TO THE COUNSELOR. Thank you for your co-operation.

Teacher _____ Subject Taught _____

	LEADERSHIP		INDUSTRY		INITIATIVE		INTEGRITY
	Judgement respected Makes things go		Seeks additional work		Actively creative		Consistently trustworthy
	Contributing in important affairs		Prepares assigned work regularly		Consistently self-reliant		Reliable, dependable
	Sometimes in minor affairs		Needs occasional prodding		Frequently initiates		Generally honest
	Co-operative but retiring		Needs constant pressure		Seldom initiates		Questionable at times
	Negative		Seldom works even under pressure		Merely conforms		Not dependable

	QUALITY OF WORK		CONCERN FOR OTHERS		RESPONSIBILITY		APPEARANCE
	Uses great care		Deeply and actively concerned		Assumes much responsibility		Uses good judgment
	Generally does a good job		Generally concerned		Conscientious		Usually conforms
	Sometimes does a good job		Somewhat socially concerned		Usually dependable		Dresses for attention
	Sloppy workmanship		Self-centered		Somewhat dependable		Not caring at times
	Seldom finishes		Indifference		Unreliable		Not caring

Teacher's Comments (if desired) _____

_____

_____

Counselor's Statement _____

_____

_____

Counselor: Please attach a photo copy of the permanent record to the completed form. Then send the form to the Child Study Department at Miller School.

_____

(Counselor's Signature)

SOME FACTS

ABOUT

NEW PRE-PROFESSIONAL PROGRAM

GRADE LEVEL:	Eleventh Grade
NO. OF CLASS SECTIONS:	Two
CLASS SIZE:	15-25 Students Per Section
SCHEDULE:	Four Periods Per Day
CREDIT:	Chemistry, Math, Physics
STUDENT FEES:	None
LOCATION:	Firestone High 333 Rampart Ave. Akron, Ohio 44313

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AKRON
BOARD OF EDUCATION

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Sam Salem

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John S. Watt, Ph. D.

Robert H. Lewis, Clerk

FOR MORE INFORMATION CONTACT

Mr. William Tenney, 434-1661
Director, Secondary Education

Mr. Nicholas Topougis, 434-3404
Coordinator, Career Education

Mr. Bradley Guy, 836-2293
Project Teacher, Firestone High

Mr. James Gross, 836-2293
Project Teacher, Firestone High

9/73 - 500

PRE-PROFESSIONAL EDUCATION

AKRON PUBLIC SCHOOLS
CONRAD C. OTT - SUPERINTENDENT

CAREER PROGRAM IN MEDICINE AND ENGINEERING

The Akron Public Schools is offering for the first time a career education program in pre-professional engineering and medicine. This two-year program is open to high school juniors during the 1973-1974 school year, its first year of operation.

The curriculum is designed to help participating students:

- gain work-related experiences in a wide variety of occupations within the fields of health and engineering.
- understand more fully the personal, social and economic significance of work.
- make a realistic decision about a professional career based on up-to-date information.
- enter college informed and well-prepared to pursue educational studies leading to careers in medicine and engineering.

The new Careers Program is funded under a special grant from the State of Ohio Department of Education.

WHAT IS THE PROGRAM FOCUS?

The program is activity-centered, combining classroom instruction with field experiences.

Students meet four periods each day. Typical activities include:

- presentations by guest speakers
- field observations
- practical work experiences at job stations
- individual and group counseling

Students taking the course will receive regular science and math credit toward graduation requirements.

Pre-Professional Preparation For Careers Including	
Physician	Civil Engineer
Veterinarian	Mechanical Engineer
Dentist	Electrical Engineer
Pharmacist	Aeronautics Engineer

WHO IS ELIGIBLE?

The pre-professional careers program is open to juniors in Akron city high schools who have completed two years of mathematics, and have maintained a good attendance and citizenship record.

Selections will be made on the basis of interest, grades, citizenship, attendance and ability to profit from the program. A personal interview may be conducted to assess the potential of an applicant.

WHERE IS THE PROGRAM OFFERED?

The program will be available at Firestone Senior High School. Students from other Akron high schools accepted into the program will be transferred and will become full-time students at Firestone.

Transportation to Firestone High must be provided by each student.

HOW DO YOU APPLY?

Applications may be obtained from school counselors. Please fill out completely and return promptly to the counselor's office.

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APPENDIX II

PRE-POSTSECONDARY
MEDICAL AND ENGINEERING
ADVISORY GROUP

MEDICAL

Dr. Sidney J. Dicher
1540 W. Market Street
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Telephone: 836-0032

Miss Kathryn Hoheier
Associate Professor of Nursing
University of Akron
Akron, Ohio 44325
Telephone: 375-7555

Dr. John Morley
Akron Health Department
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Dr. John Norman
Cedar Pine Building
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Telephone: 762-9033

Dr. Yale Palchik
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Telephone: 836-9788

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Telephone:

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Telephone: 375-7291

Mr. David M. Nahra
Nahra Company, Incorporated
1898 Akron-Peninsula Road
Akron, Ohio 44313

Mr. George Welch
572 Meggden Avenue
Akron, Ohio 44303
Telephone: 836-7354

PRE-PROFESSIONAL PROGRAM

ADVISORY COMMITTEE

_____ NAME

_____ CAREER AREA

_____ ADDRESS

_____ TELEPHONE NO.

_____ ALTERNATE

_____ CAREER AREA

_____ ADDRESS

_____ TELEPHONE NO.

ARE YOU AVAILABLE TO TAKE PART IN DIALOG WITH THE STUDENTS? YES /__/ NO /__/

_____ DAY OF THE WEEK

IS IT POSSIBLE YOU CAN PROVIDE EXPERIENCES FOR EXPLORING MEDICAL OR ENGINEERING CAREERS? YES /__/ NO /__/

_____ LOCATION

_____ CONTACT PERSON

_____ ADDRESS

_____ TELEPHONE NO.

WHAT ARE SOME EXPERIENCES YOU FEEL STUDENTS SHOULD EXPERIENCE?

_____

_____

_____

HOW DO YOU SEE YOURSELF HELPING STUDENTS AND TEACHERS IN THE PRE-PROFESSIONAL PROGRAM?

_____

_____

_____

FIELD EXPERIENCE

The Field Experience portion of the Pre-Post Secondary Health Curriculum comprises one of the primary experiences of the program. As mentioned in the introduction of this report, the field experience is designed to provide the student with an understanding of the respective careers in the health occupations, to introduce the student to the program professional and personal requirements of his health program choice, and to promote student understanding and acceptance of his abilities, interests, and aptitudes in light of his career choice. To some extent the field experience also supports and augments what is done in the classroom during the academic portion of the program. In particular the field experience centers around four activities. The first is to provide the student with specific understandings of the profession that he envisions entering. For example, if the student envisions becoming a physician, the program will attempt to get a one-to-one correspondence between him and a practicing physician so that he can find out what the physician does, how he does his work, and in particular what that persons life style is. Secondly, the field experience will provide students with contact with other professionals in the health industry to give him perspective of the whole indsutry itself. This will be accomplished by the student going out and visiting professionals outside of his area of interest. The third type of experience centers on applications of work that the student has already done in the classroom. For example, when the student has studied cells, and cell division, visitation may be made to the American Cancer Society or to a cancer research laboratory or to some other revelant facility. Finally, there will be activities with colleges and professional schools that the students might likely attend.

In the local situation, the teacher or the coordinator of the field experience program will have to have considerable leeway to change what is in the curriculum project as stated here in order that they can meet local situations as they may exist. The seventy-two experiences listed in this curriculum are based upon the availability of experiences in the metropolitan Toledo area.

Irregardless, though, of the type of the field experience that may be instigated, the general format should remain the same. That is, the student should have certain preliminary activities preceding the field experience; the student should then have clearly defined objectives he will meet during that field experience; and finally there should be carefully defined follow-up activities following that field experience. The whole activity should be carefully monitored by the instructor of the program. Efforts should always be made to make sure that the experiences are related to the objectives of the program or the academic work that is going on concurrently with the experience itself.

Life Science
Field Experience
Career Day

Focus:

To obtain an overview of the health field and encounters with specific professions.

Developmental Objectives:

To provide the student with perspective of the health industry by understanding the respective careers opportunities in the respective occupation areas.

Behavioral Objectives:

1. The student will be able to describe the divisions of the health fields and how they interrelate to one another.
2. The student will be able to identify the career opportunities in the field of interest to him and the requirements of that field.
3. The student will write a one page report relating his abilities against the requirements of his chosen profession.
4. The student will select what profession or technical area about which he is interested in having more in depth knowledge.

Student Preparation:

None

Activities:

1. The group will as a whole have a speaker (or speakers) and view films related to various health fields.
2. The group will break into small discussion groups to clarify information received in the larger group.
3. Submit a one page written report of your findings. This report should be related to objectives, preparation and activities.

Resource Materials:

Occupational Handbook

Tentative Rotation of Students

Groups	Week 1	Week 2	Week 3
1, 2	Autopsy Room	Orthopedic Surgeon	Osteopathic Doctor
3, 4	Osteopathic Doctor	Autopsy Room	Orthopedic Surgeon
5, 6	Orthopedic Surgeon	Osteopathic Doctor	Autopsy Room

Students should break into groups of 2 or 3 and rotate through the various experiences.

2nd Year

Life Science

Osteopathic Doctor

Focus:

Role of the Osteopathic Doctor.

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the role of the Osteopathic Doctor.
2. The student will be able to describe the daily activities of an Osteopathic Doctor.
3. The student will be able to describe career opportunities and entrance requirements for becoming an Osteopathic Doctor.
4. The student will be able to describe licensure requirements.
5. The student will be able to describe the role of the Osteopathic Doctor as it relates to his professional field of interest.

Student Preparation:

1. Review entrance requirements for school of Osteopathic Doctors.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local Osteopathic Doctor or Osteopathic hospital.
2. The student should seek answers to the following questions:
   a. What is the role of an osteopathic doctor?
   b. What are the career opportunities, entrance requirements, and licensure requirements for Doctors of Osteopathy?
   c. How does the practice of osteopathic medicine differ from other forms of medical practice?
3. The student through his own research, should determine the role of osteopathic medicine as it is related to his professional field of interest.
4. Submit a one page written report of your findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Autopsy Room (Morgue)

Focus:

Gross anatomy and the role of the pathologist in the autopsy room.

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the gross anatomy of the human body.
2. The student will be able to describe the autopsy procedure.
3. The student will be able to describe the usual role of the pathologist in an autopsy and the significance of the result of an autopsy.
4. The student will be able to describe career opportunities in this field and the requirements for them.

Student Preparation:

1. Review the literature on autopsy procedures.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The students should visit a local autopsy room.
2. The students should seek answers to the following questions:
   a. What are the legal aspects of the result of an autopsy?
   b. What is the pathologist's role in an autopsy room?
   c. What careers are available in this area, and what are the requirements for them?
3. The student should submit a one page written report of his findings. This report should be related to the objective, preparation, and activities.

2nd Year

Life Science

Orthopedic Surgeon

Focus:

Role of the Orthopedic Surgeon

Developmental Objectives:

To provide the student with experience which will allow his to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the role of the Orthopedic Surgeon.
2. The student will be able to describe the daily activities of an Orthopedic Surgeon.
3. The student will be able to describe career opportunities and entrance requirements for becoming an Orthopedic Surgeon.
4. The student will be able to describe licensure requirements.
5. The student will be able to describe the role of the Orthopedic Surgeon as it relates to his professional field of interest.

Student Preparation:

1. Review professional entrance requirements for orthopedic surgery.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local Orthopedic Doctor and Orthopedic hospital.
2. The student should seek answers to the following questions:
   a. What is the role of an orthopedic surgeon?
   b. What are the career opportunities, entrance requirements, and licensure requirements for Doctors of Orthopedic?
   c. How does the practice of orthopedic medicine differ from other forms of medical practice?
3. The student, through his own research, should determine the role of orthopedic medicine as it is related to his professional field of interest.
4. Submit a one page written report of your findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Artificial Limb Factory

Focus:

Role of the limb maker and designer

Developmental Objectives:

To provide the student relevant application of the concepts covered in the academic program.

To provide the student with perspective of the health industry through observation of an artificial limb factory.

Behavioral Objectives:

1. The student will be able to describe the role of limb maker with the patient requiring an artificial limb.

2. The student will be able to describe the methods the limb makers uses in making fitting an artificial limb.

3. The student will be able to describe the career opportunities and requirements for becoming a limb maker.

Student Preparation:

1. Review the literature on prosthetic devices.

2. Review the physical principles of lever and torques.

3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should view a film on artificial limbs and/or visit an artificial limb factory.

2. The student should seek answers to the following questions:

   a. What is the role of a limb maker?

   b. How does the limb maker relate to the patient being fitted for a limb?

   c. What are the career opportunities and requirements for becoming a limb maker or designer?

3. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Electromyogram

Focus:

Significance of EMG

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the principles of the EMG.
2. The student will be able to describe the significance of the results of an EMG.

Student Preparation:

1. Review the literature on disorders of muscular system.
2. Review the literature on contraction of the skeletal muscles.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local hospital or clinic and observe the EMG procedure.
2. The student should seek answers to the following questions:
   a. What are the principles of the EMG?
   b. What is the significance of the results of an EMG?
   c. Who usually administers the EMG?
3. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Doctor of Physical Medicine

Focus:

The role of Physiatrist

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the role of physiatrist.
2. The student will be able to describe the daily activities of a physiatrist.
3. The student will be able to describe career opportunities and entrance requirements for becoming physiatrist.
4. The student will be able to describe the licensure requirements.
5. The student will be able to describe the role of the physiatrist as it relates to his professional field of interest.

Student Preparation:

1. Review entrance requirements for school of physical medicine.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local physiatrist.
2. The student should seek answers to the following questions:
   a. What is the role of physiatrist?
   b. What are the career opportunities, entrance requirements and licensure requirements for the physiatrist?
3. The student, through his own research, should determine the role of physical medicine as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Physical Therapy & The Physical Therapist

Focus:

Function of physical therapy department & physical therapist

Developmental Objectives:

To provide the student wil experience which will allow him to gain a perspective of the health industry though study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the role of physical therapist.
2. The student will be able to describe the function of the department.
3. The student will be able to describe the daily activities of a Physical Therapist.
4. The student will be able to describe career opportunities and requirements for becoming a physical therapist.
5. The student will be able to describe the role of the Physical Therapist as it relates to his professional field of interest.

Student Preparation:

1. Review the literature on physical therapy.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit the physical therapy department of a local hospital.
2. The student should seek answers to the following questions:
   a. What is the role of the physical therapist?
   b. What are the career opportunities, entrance requirements, and licensure requirements for physical therapists?
   c. How does the practice of physical therapy differ from other forms of medical practice?
3. The student, through his own research, should determine the role of physical therapy as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Muscular Dystrophy Foundation

Focus:

Function of Muscular Dystrophy Foundation

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of Muscular Dystrophy Foundation.
2. The student will be able to describe the services available to the public.
3. The student will be able to describe the current research on muscular dystrophy.

Student Preparation:

1. Review the literature on muscular dystrophy.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local office of the Muscular Dystrophy Foundation.
2. The student should seek answers to the following questions:
   a. What are the services available?
   b. What are the current research?
   c. What are the functions of the Muscular Dystrophy Foundation?
3. The student, through his own research, should determine the role of muscular dystrophy as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Gastro Intestinal Unit

Focus:

Observation of GI Unit

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the function of the GI unit.
2. The student will be able to describe the significance of the procedures carried out.
3. The student will be able to describe the equipment utilized for diagnostic purposes.

Student Preparation:

1. Review the literature on disorders of digestive system.
2. Review the literature on fiber optics.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit the GI unit in a local hospital.
2. The student should seek answers to the following questions:
   a. What is the function of the GI unit?
   b. What is the significance of the procedures observed?
   c. What equipment is used in the GI unit?
3. The student, through his own research, should determine the role of the gastro intestinal unit as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Heart Station

Focus:

Function of the heart station and the role of the technician.

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives;

1. The student will be able to describe the function of the heart station and the role of the technician.

2. The student will be able to describe the significance of the results of the examination.

3. The student will be able to describe career opportunities and requirements for becoming a heart station technician.

Student Preparation:

1. Review the literature on electrostatics as it applies to the ECG.

2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit the heart station in a local hospital.

2. The student should seek answers to the following questions:

   a. What is the function of the heart station and the role of the technician?

   b. What are the career opportunities and requirements for becoming a technician?

3. The student, through his own research, should determine the role of the heart station as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

American Heart Association

Focus:

Function of the American Heart Association

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe financial resources, research projects, and media resources of the American Heart Association.
2. The student will be able to describe the services offered by the American Heart Association.
3. The student will be able to determine who is eligible to receive services form American Heart Association.
4. The student will be able to determine his role in aiding the American Heart Association.
5. The student will be able to identify career opportunities in this field and the requirements for them.

Student Preparation:

1. Collect information about the American Heart Association and its purpose
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student shuuld visit a local office of the American Heart Association.
2. The student should seek answers to the following questions:
   a. What are the sources of funds for the American Heart Association?
   b. What types of research projects are being pursued?
   c. What media resources are available?
   d. What types of aids are offered to the heart patient and who are the recipients of aid?
3. The student, through his own research, should determine therole of the heart association as it is related to his professional field of interest.

American Heart Association (con't)

Activities:

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Geriatric Center

Focus:

The functions of the Geriatric Center

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the functions of the Geriatric Center.
2. The student will be able to describe the problem unique to the aging process.
3. The student will be able to describe who is admitted to the geriatric center and what benefits are available at the center.
4. The student will be able to describe how geriatric care has progressed in the last decade.
5. The student will be able to describe career opportunities in this field and the requirements for them.

Student Preparation:

1. Read about a geriatric center.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local geriatric center.
2. The student should seek answers to the following questions:
   a. What is the function of the geriatric center?
   b. What are the problems unique to aging and geriatric care?
   c. Who is admitted to geriatric center? Are there requirements for admission?
   d. What changes have occurred in geriatric care over the past decade?
   e. What are the career opportunities in this field and what are the requirements for them?

Geriatric Center (con't)

Activities:

3. The student, through his own research, should determine the role of the geriatric center as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Jobst Institute (East Toledo)

Focus:

Function of Jobst Institute and its products.

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of Jobst Institute.
2. The student will be able to describe the procedure for constructing a jobst stocking.
3. The student will be able to describe the products and the uses of each.
4. The student will be able to describe the problems of the person who receives the stocking.
5. The student will be able to describe the career opportunities and the requirements in this field.

Student Preparation:

1. Review the principles of physics - pressure.
2. Review the circulatory system.
3. Review the literature on varicosities.
4. Review blood pressure.
5. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should seek answers to the following questions:
   a. What is the function of Jobst Institute?
   b. How is a Jobst Stocking constructed?
   c. What are the products and how is each one used?
   d. What are the type of problems of the person who is the receipient of a Jobst Stocking?
   e. What are the career opportunities in this field and the requirements for employment in this field?

Jobst Institute (con't)

Activities: (con't)

2. The student, through his own research, should determine the role of the Jobst Institute as it is related to his professional field of interest.

3. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Cardiologist

(Vascular Surgeon)

Focus:

Role of the cardiologist

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the role of the cardiologist.
2. The student will be able to describe the career opportunities in this field and the requirements for this field.
3. The student will be able to describe the licensure requirements of the cardiologist.

Student Preparation:

1. Read about the cardiologist.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local cardiologist.
2. The student should seek answers to the following questions:
   a. What is the role of the cardiologist?
   b. What career opportunities are available in this field and what are the requirements of them?
   c. Is licensure required in this field? Explain your answer.
3. The student, through his own research, should determine the role of a cardiologist as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives

2nd Year

Life Science

Inhalation and Respiratory Therapy
(Includes Pulmonary Functions)

Focus:

Function of Inhalation (Respiratory)Therapy and the role of the Inhalation Therapist

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the function of inhalation therapy.
2. The student will be able to describe the role of the inhalation therapist.
3. The student will be able to describe the methods utilized in this therapy and the significance of these methods.
4. The student will be able to describe the career opportunities in this field and the requirements for them.
5. The student will be able to describe the licensure requirements.

Student Preparation:

1. Review the anatomy and physiology of respiratory system.
2. Review the gas laws from physics.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit the inhalation therapy department in a local hospital.
2. The student should seek answers to the following questions:
   a. What is the function of inhalation therapy?
   b. What is the role of the inhalation therapist? What does he do?
   c. What are the methods used in inhalation therapy and what is the significance of each method?
   d. What career opportunities are available and what are the requirements for them?

2nd Year

Life Science

Inhalation and Respiratory Therapy
(Includes Pulmonary Functions)

Focus:

Function of Inhalation (Respiratory)Therapy and the role of the Inhalation Therapist

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the function of inhalation therapy.
2. The student will be able to describe the role of the inhalation therapist.
3. The student will be able to describe the methods utilized in this therapy and the significance of these methods.
4. The student will be able to describe the career opportunities in this field and the requirements for them.
5. The student will be able to describe the licensure requirements.

Student Preparation:

1. Review the anatomy and physiology of respiratory system.
2. Review the gas laws from physics.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit the inhalation therapy department in a local hospital.
2. The student should seek answers to the following questions:
   a. What is the function of inhalation therapy?
   b. What is the role of the inhalation therapist? What does he do?
   c. What are the methods used in inhalation therapy and what is the significance of each method?
   d. What career opportunities are available and what are the requirements for them?

Inhalation and Respiratory Therapy (con't)

Activities:

e. What are the licensure requirements for the inhalation therapist?

3. The student, through his own research, should determine the role of the inhalation therapist as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Multiple Sclerosis

Focus:

Function of Multiple Sclerosis Association

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectiv es:

1. The student will be able to describe the function of the Multiple Sclerosis Association.
2. The student will be able to describe the services available from the Multiple Sclerosis Association.
3. The student will be able to describe who receives aid from the Multiple Sclerosis Association.
4. The student will be able to describe career opportunities available in this field and the requirements for them.

Student Preparation:

1. Review the nervous system.
2. Review the literatrue on multiple sclerosis.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local office of the Multiple Sclerosis Foundation.
2. The student should seek answers to the following questions:
   a. What is the function of the Multiple Sclerosis Association?
   b. What services are available from the Multiple Sclerosis Association?
   c. Who receives aid from the Multiple Sclerosis Association?
   d. What are the career opportunities in this field and the requirements for them?
3. The student, through his own research, should determine the role of multiple sclerosis as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

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2nd Year

Life Science

Cerebral Palsy

Focus:

Function of Cerebral Palsy Foundation

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of the Cerebral Palsy Foundation.
2. The student will be able to describe the services available from the Cerebral Palsy Foundation.
3. The student will be able to describe who receives aid from the Cerebral Palsy Foundation.
4. The student will be able to desribe career opportunities available in this field and the requirements for them.

Student Preparation:

1. Review the nervous system.
2. Review the literature on types of cerebral palsy.
3. Outlin e or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local office of the Cerebral Palsy Foundation.
2. The student should seek answers to the following questions:
   a. What is the function of the Cerebral Palsy Foundation?
   b. What services are available from the Cerebral Palsy Foundation?
   c. Who receives aid from the Cerebral Palsy Foundation?
   d. What are the career opportunities in this field and the requirements for them?
3. The student, through his own research, should determine the role of cerebral palsy as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Extended Care Facility for Mentally Retarded

Focus:

Function of extended care facility for mentally retarded

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of the extended care facility.
2. The student will be able to describe the services and the benefits of the extended care facility.
3. The student will be able to describe the financial aids available to the extended care facility.
4. The student will be able to describe the environment and surroundings of the extended care facility.
5. The student will be able to describe the career opportunities available and the requirements for them.
6. The student will be able to describe the methods of care of the mentally retarded and the approach used with this type of disability.

Student Preparation:

1. Review the nervous system.
2. Review the literature on mental retardation.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local extended care facility.
2. The student should seek answers to the following questions:
   a. What is the function of this facility?
   b. What services and benefits are available at this facility, and to the mentally retarded?
   c. How does the facility receive financial aid?

Week 18

Extended Care Facility for Mentally Retarded (con't)

Activities:

d. Describe the environment and surroundings of the extended care faciltiy. How would this affect a mentally retarded person?

e. What methods of treatment and care are employed for the mentally retarded individual?

f. What are the career opportunities and the requirements for them?

3. The student, through his own research, should determine the role of the extended care facility as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Electroencephalogram

Focus:

Function of the Electroencephalogram

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the function of the EMG.
2. The student will be able to describe the method by which the EEG is recorded.
3. The student will be able to describe the significance of the results of the EMG.
4. The student will be able to describe the career opportunities in this field and the requirements for them.

Student Preparation:

1. Review the nervous system.
2. Review electrostatics and bioelectric current.
3. Review the literature on epilepsy.
4. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local hospital or clinic and observe the EMG procedure.
2. The student should seek answers to the following questions:
   a. What are the principles of the EMG?
   b. What is the significance of the results of an EMG?
   c. Who usually administers the EMG?
3. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

Electroencephalogram (con't)

Activities:

a. What is the function of the electroencephalogram?

b. What is the method by which the EMG is recorded?

c. What is the significance of the results of the EMG?

d. What career opportunities are available in this field and what are the requirements for them?

4. Submit a one page written report of your findings. This report should be realted to objectives, preparation and activities.

2nd Year

Life Science

Psychiatric Unit State Hospital

Focus:

Function of the psychiatric unit and the role of the people involved in the care o the patient who is having difficulty coping with stress.

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the function of the psychiatric unit, the environment and the type of care the individual who is having difficulty coping with stress receives.

2. The student will be able to identify members of the team that is caring for the person having difficulty coping with stress and the role of each member.

3. The student will be able to describe the rehabilitation programs available to the individual who is having difficulty coping with stress.

4. The student will be able to describe the services available to the individual who is having difficulty coping with stress.

5. The student will be able to describe the career opportunities available in this field and the requirements for them.

Student Preparation:

1. Review the nervous system.

2. Review mental health principles.

3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local Psychiatric Doctor or Psychiatric hospital.

2. The student should seek answers to the following questions:

   a. What is the function of the psychiatric unit, the environment and type of care the infividual who is having difficulty coping with stress receives?

Psychiatric Unit State Hospital (con't)

Activities:

b. Who are the members of the members of the team caring for the individual who is having difficulty coping with stress? Describe each member's role.

c. What rehabilitation programs are available for the individual who is having difficulty coping with stress?

d. What services are available to this individual?

e. What are the career opportunities and the requirements for them?

3. The student through his own research, should determine the role of Psychiatric medicine as it is related to his professional field of interest.

4. Submit a one page written report of your findings. This report should be related to objectives, preparation and activities.

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2nd Year

Life Science

Epilepsy Foundation

Focus:

Function of the Epilepsy Foundation

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of the Epilepsy Foundation.
2. The student will be able to describe the services available from the Epilepsy Foundation.
3. The student will be able to describe who receives aid from the Epilepsy Foundation.
4. The student will be able to describe career opportunities available in this field and the requirements for them.

Student Preparation:

1. Review the nervous system.
2. Review the literature on types of epilepsy.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local office of the Epilepsy Foundation.
2. The student should seek answers to the following questions:
   a. What is the function of the Epilepsy Foundation?
   b. What services are available from the Epilepsy Foundation?
   c. Who receives aid from the Epilepsy Foundation?
   d. What career opportunities are available in this field and what are the requirements for them?
3. The student through his own research, should determine the role of Epilepsy medicine as it is related to his professional field of interest.
4. Submit a one page written report of your findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Mental Hygiene Clinic

Focus:

Function of the Mental Hygiene Clinic

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the purpose of the clinic.
2. The student will be able to identify the services available through the clinic.
3. The student will be able to identify members of the health team.
4. The student will be able to describe the role of each member of the health team.

Student Preparation:

1. Review the nervous system.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local mental hygiene clinic.
2. The student should seek answers to the following questions:
   a. What is the purpose of the clinic?
   b. Who can attend the clinic?
   c. Who are the members of the health team?
   d. What are the career opportunities available and describe the requirements for them?
3. The student through his own research, should determine the role of mental hygiene as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activites.

2nd Year

Life Science

Opthalmologist

Focus:

Function and role of the opthalmologist.

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the role of the opthalmologist.
2. The student will be able to describe the significance of the results of the examination done by the opthalmologist.
3. The student will be able to describe the equipment the opthalmologist uses.
4. The student will be able to describe the career opportunities and the requirements for them.

Student Preparation:

1. Review the anatomy and physiology of the eye.
2. Review the principles of optics.
3. Review the literature on eye disorders and visual defects.
4. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local opthalmologist.
   a. What is the role of the opthalmologist?
2. The student should seek answers to the following questions:
   a. What is the purpose of the clinic?
   b. What equipment does the opthalmologist use?
   c. What significance do the results of his examinations have?
   d. What are the career opportunities available and describe the requirements for them?

Opthalmologist (con't)

Activities:

3. The student through his own research, should determine the role of the opthalmologist as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activites.

2nd Year

Life Science

Optometrist

Focus:

Function and role of the oprometrist

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the role of the optometrist.
2. The student will be able to describe the significance of the results of the examination done by the optometrist.
3. The student will be able to describe the equipment the optometrist uses.
4. The student will be able to describe the career opportunities and the requirements for them.

Student Preparation:

1. Review the anatomy and physiology of the eye.
2. Review the principle of optics.
3. Review the literature on visual defects.
4. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local optometrist.
   a. What is the role of the optometrist?
2. The student should seek answers to the following questions:
   a. What is the purpose of the clinic?
   b. What equipment does the optometrist use?
   c. What significance do the results of his examinations have?
   d. What are the career opportunities available and describe the requirements for them?

Optometrist

Activities:

3. The student through his own research, should determine the role of the optometrist as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Eye Bank

Focus:

Function of the eye bank.

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function and purpose of the eye bank.
2. The student will be able to describe the services available through the eye bank.
3. The student will be able to describe the source of supply.
4. The student will be able to describe the financial support a available to eye bank.
5. The student will be able to describe who the recipients are.
6. The student will be able to describe current research on the eye.
7. The student will be able to describe the career opportunities available in this field and the requirements for them.

Student Preparation:

1. Review the anatomy and phsiology of the eye.
2. Review the literature on eye transplants.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local Eye Bank.
2. The student should seek answers to the following questions:
   a. What is the function of the eye bank?
   b. What is the source of supply?

Eye Bank

Activities:

c. What services are available through the eye bank?

d. What type of financial support does the eye bank receive?

e. Who are the recipients of eyes?

f. What current research is being done on the eye?

g. What are the career opportunities available in this field and the requirements for them?

3. The student through his own research, should determine the role of the eye bank as it is related to his professional field of interest.

4. Submit a one page written report of your findings. This report should be related to objectives, preparation and activities.

2nd Year

Life SCience

Otologist

Focus:

Function and role of the otologist

Developmental Objectives:

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will beable to describe the role of the otologist.
2. The student will be able to describe the significance of the results of the examination done by the otologist.
3. The student will be able to describe the equipment the otologist uses.
4. The student will be able to describe the career opportunities and the requirements for them.

Student Preparation:

1. Review the anatomy and physiology of the ear.
2. Review the principles of sound production, propogation and detection.
3. Review the literature on ear disorders and defects.
4. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local otologist.
   a. What is the role of the otologist?
2. The student should seek answers to the following questions:
   a. What is the purpose of the clinic?
   b. What equipment does the otologist use?
   c. What significance do the results of his examinations have?
   d. What are the career opportunities available and describe the requirements for them?

Otologist

Activities:

3. The student through his own research, should determine the role of the otologist as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be realted to objectives, preparation and activities.

2nd Year

Life Science

Speech-Hearing Therapy

Focus:

The role of the Speech-Hearing Therapist

Developmental Objectives

To provide the student with experience which will allow him to gain a perspective of the health industry through study of specific professions.

Behavioral Objectives:

1. The student will be able to describe the role of the speech and hearing therapist.
2. The student will be able to describe the function of speech and hearing therapy.
3. The student will be able to describe the methods of testing and the significance of the results of the testing for speech and hearing therapy.
4. The student will be able to describe the services available through the speech and hearing clinic.
5. The student will be able to describe the career opportunities and the requirements for them.

Student Preparation:

1. Review the anatomy and physiology of the ear and organ of phonation.
2. Review the literature on disorders of the ear and organ of phonation.
3. Review the literature on hearing and speech defects.
4. Review the principles of sound production, propogation and detection.
5. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local speech-hearing therapy doctor or speech-hearing therapy hospital.
2. The student should seek answers to the following questions:

   a. What is the role of a speech-hearing therapist?

Speech-Hearing Therapy

Activities:

b. What is the function of speech and hearing therapy?

c. What are the methods of testing and the significance of the results of the testing for speech and hearing therapy?

d. What are the services available through the speech and hearing clinic?

e. What are the career opportunities and the requirements for them?

3. The student through his own research, should determine the role of the speech and hearing therapist as it is related to his professional field of interest.

4. Submit a one page written report of your findings. This report should be realted to objectives, preparation and activities.

2nd Year

Life Science

Kidney Foundation

Focus:

Function of the Kidney Foundation

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of the Kidney Foundation.
2. The student will be able to describe the services available from the Kidney Foundation.
3. The student will be able to describe who receives aid from the Kidney Foundation.
4. The student will be able to describe career opportunities available in this field and the requirements for them.

Student Preparation:

1. Review the excretory system.
2. Review the literature on kidney disorders.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should vivit a local office of the Kidney Foundation.
2. The student should seek answers to the following questions:
   a. What is the function of the Kidney Foundation?
   b. What services are available from the Kidney Foundation?
   c. Who receives aid from the Kidney Foundation?
   d. What career opportunities are available in this field and what are the requirements for them?
3. The student, through his own research, should determine the role of the Kidney Foundation as it is related to his professional field of interest.

Kidney Foundation

Activities:

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Kidney Machine Dialysis Center

Focus:

Function of the Dialysis center and the role of the members of the health team

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the function of the dialysis center.
2. The student will be able to describe the role of each member of the health team.
3. The student will be able to describe the principles of the dialysis machine.
4. The student will be able to describe the sources of financial support.
5. The student will be able to describe the home dialysis program.
6. The student will be able to describe the career opportunities available in this program and the requirements for them.

Student Preparation:

1. Review the excretory system.
2. Review the principles of bioninstrumentation.
3. Review the physiology of the kidney.
4. Review the literature on disorders of the kidney.
5. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit the dialysis center in a local hospital.
2. The student should seek the answers to the following questions:
   a. What is the function of the dialysis center?
   b. What is the role of each member of the health team?

Kidney Machine Dialysis Center

Activities:

c. What are the principles of the dialysis machine?

d. What are the sources of financial support?

e. What is the home dialysis program?

f. What career opportunities are available and what are the requirements for them?

3. The student, through his own research, should determine the role of the dialysis center as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Burn Unit

Focus:

Function of the Burn Unit and the role of the members of the health team

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the function of the burn unit.
2. The student will be able to describe the roles of the members of the health team.
3. The student will be able to describe the environment and care of the patient.
4. The student will be able to describe the problems which are unique to the burn patient.
5. The student will be able to describe the services available to the burn patient,
6. The student will be able to describe current research on burns.
7. The student will be able to describe the career opportunities available in this field and the requirements for them,

Student Preparation:

1. Review the anatomy and physiology of the skin, fluids, and electrolytes, and the dynamics of circulation.
2. Review the literature on skin grafts.
3. Outline or list specific information you expect or would like to gain from this experience,

Activities:

1. The student should visit the burn unit in a local hospital.
2. The student should seek answers to the following questions:
   a. What is the function of the burn unit?
   b. What are the roles of the members of the health team?

Burn Unit

Activities:

c. What is unique about the environment and the care of the patient?

d. What problems are unique to the burn patient?

e. What services are available to the burn patient?

f. What current research is being done on burns?

g. What are the career opportunities available in this field and the requirements of them?

3. The student, through his own research, should determine the role of the burn unit as it is related to his progessional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Endocrinology Clinic

Focus:

Function of endocrinology clinic and the roles of members of the health team

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the function of the endocrinology clinic.
2. The student will be able to describe the roles of the member of the health team,
3. The student will be able to describe the methods utilized in the therapy and the significance of these methods.
4. The student will be able to describe current research in endocrinology,
5. The student will be able to describe the career opportunities in this field and the requirements for them.

Student Preparation:

1. Review the anatomy and physiology of the endocrine system,
2. Review the literature on disorders of the endocrine system,
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit the endocrinology clinic in a local hospital,
2. The student should seek answers to the following questions:
   a. What is the function of endorcinology clinic?
   b. What are the roles of the members of the health team?
   c. What methods of therapy are utilized and what is the significance of these methods?
   d. What current research is being done in endocrinology?
   e. What are the career opportunities in this field and the requirements for them?

Endocrinology Clinic (con't)

Activities:

3. The student, through his own research, should determine the role of the endocrinology clinic as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Planned Parenthood

Focus:

Family Planning

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the purpose of Planned Parenthood.
2. The student will be able to describe the preparation of the client for counseling.
3. The student will be able to describe the types of counseling available to clients.
4. The student will be able to describe the clients reaction to counseling.
5. The student will be able to describe career opportunities and the requirements for them.

Student Preparation:

1. Review the anatomy and physiology of reproductive system.
2. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. Select one client and follow this client through the process at Planned Parenthood.

   Example of the process

   a. The client makes appointment (either in person or by phone)
   b. The client arrives at reception desk.
   c. The client may go to social intake.
   d. The client is taken to an interview office.
   e. A blood pressure, weight, urinalysis and hemoglobin is done.
   f. The client is then taken to a doctor's office.
   g. An examination is done.
   h. The client arrives at dispensary.
   i. The client returns to the receptionist's desk.

2. Write and submit to your instructor a one page report of your findings. The report should be related to objectives, preparation and activities.

2nd Year

Life Science

Gynecologist

Focus:

Role of the Gynecologist

Developmental Objectives:

To provide the student with relevant applications of the concepts covered in the academic program.

Behavioral Objectives:

1. The student will be able to describe the role of the gynecologist.
2. The student will be able to describe the career opportunities in this field and the requirements for them.

Student Preparation:

1. Review the anatomy and physiology of the reproductive system.
2. Review the literature on disorders of the reproductive system.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local Gynecologist Doctor.
2. The student should seek answers to the following questions:
   a. What is the role of the gynecologist?
   b. What career opportunities are available and the requirements for them?
3. The student, through his own research, should determine the role of the Gynecologist as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Lost-Chord Club

Focus:

Rehabilitation of people who have had laryngectomies

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of the lost chord club.
2. The student will be able to describe the method used to teach speech, and the method by which the person speaks.
3. The student will be able to describe the services and benefits available through the lost chord club.

Student Preparation:

1. Review the anatomy and physiology of the larynx.
2. Review the literature on esophageal speech.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local office of the Lost-Chord Club.
2. The student should seek answers to the following questions:
   a. What is the function of the lost chord club?
   b. What method is used to teach speech, and the method the person uses to speak?
   c. What services and benefits are available to the person who has had a laryngeatomy?
3. The student, through his own research, should determine the role of the lost chord club as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

2nd Year

Life Science

Heart Strokers

Focus:

Function of the Strokers

Developmental Objectives:

To provide the student with a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of the Strokers.
2. The student will be able to describe the services and benefits available through the heart strokers.

Student Preparation:

1. Review the anatomy and physiology of the circulatory system.
2. Review the causes of strokes.
3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local office of the Heart Strokers.
2. The student should seek answers to the following questions:
   a. What is the function of the strokers?
   b. What services and benefits are available to the strokers?
3. The student, through his own research, should determine the role of the heart strokers as it is related to his professional field of interest.
4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation, and findings.

2nd Year

Life Science

Colostomy Club

Focus:

Function of the Colostomy Club

Developmental Objectives:

To provide the student wiht a perspective of the health industry by observing an organization devoted to a single health problem.

Behavioral Objectives:

1. The student will be able to describe the function of the colostomy club.

2. The student will be able to describe the services and benefits available through the colostomy club.

Student Preparation:

1. Review the anatomy and physiology of the large intestine.

2. Review the literature on gastrointestinal disorders.

3. Outline or list specific information you expect or would like to gain from this experience.

Activities:

1. The student should visit a local office of the Colostomy Club.

2. The student should seek answers to the following questions:

   a. What is the function of the colostomy club?

   b. What services and benefits are available to the members of the colostomy club?

3. The student, through his own research, should determine the role of the colostomy club as it is related to his professional field of interest.

4. The student should submit a one page written report of his findings. This report should be related to objectives, preparation and activities.

PRE-PROFESSIONAL PROGRAM

HEALTH

Visit a medical facility where medical devices are made -- limbs, hearts, etc.

Visit the Red Cross -- how they work.

Visit air pollution control center.

Attend a meeting of the medical society.

Visit fire department and talk to members of the rescue squad.

Visit one of the ambulance service companies.

Interview with an orthodontist.

Invite EKG technician in to discuss with the class.

Visit a mortuary.

Visit a milk company lab -- see various bacterial tests.

Visit Apple Creek, Fallsview, Brecksville.

Work with City Health inspectors.

Spend a day at one of the schools of nursing and go into classes with nurses.

Visit Children's Hospital emergency for 1/2 day.

Work with volunteers, or volunteer to work at Child Guidance Center, Locust St.

Visit laboratories where dentures are made.

Visit dental lab program at Hower.

Attend A.A. meeting.

Visit Pollution Control Dept., City of Akron.

Use of computer in research lab.

Visit to Vic Tanney Health Club.

Visit the research lab -- Barberton Citizens Hospital.

Hospital equipment and supplies.

Visit Pharmaceutical House.

Shadow doctor, dentist, nurse, veterinarian, health professions -- 1/2 day.

Visit or work with Children's Zoo -- care and feeding of animals.

Talk with school psychologists.

Visit coroner's office, Morley Health Center.

Visit to the business offices of the various medical and surgical companies.

Discuss health insurance with a representative of one of the companies.

Visit the various community health agencies -- Seiberling, Morley.

Visit a large industrial hospital such as Firestone (Dr. Larry Bailey) or Goodyear and see the kind of facilities they have.

Visit a V.D. clinic.

Discuss physical fitness study at Kent State -- Dr. Golden.

Visit Cleveland Health Museum.

Interview with curator or director.

Visit State Mental Hospital.

Portage Lakes fish hatchery division of wild life.

Visit a suicide prevention center.

Visit a hospital and see the entire operation.

Visit a physician and surgical equipment and supply company.

Visit hospital director in relation to hospital management.

Visit with mecamotherapist.

Talk to homicide detec. about their investigations.

Visit with social service organizations.

Work with the speech and hearing therapists.

Visit with a general practioner for a day.

Invite someone in to talk about acupuncture.

What about volunteer help in hospitals on Saturday and after school.

Start a community program with volunteers.

Visit the special education wing at Barrett Elementary or North High.

Spend 1/2 day with physical therapist.

Visit with an x-ray technician or radiologist for 1/2 day.

Visit the YMCA or the YWCA.

Visit clinics -- the new Akron Clinic, nursing homes, Montgomery Institute, Planned Parenthood, Portage Path Mental, Family Clinic.

Invite Dr. Robinson or Dr. Farris in to discuss sickle cell anemia.

Visit to a medical science library -- hospitals.

Visit to medical specialties lab.

Visit to methadone clinic -- Fallsview.

Invite the spouse of a doctor-dentist to discuss the life of the spouse.

Visit to food processing center -- meat, bakery.

Visit a training school for the blind -- Cleveland, Columbus.

Visit vocational guidance and rehabilitation centers.

Visit Weaver School.

Visit Fred W. Albrecht Grocery Company -- meat commissary.

Visit research centers where they test foods.

HEALTH AND ENGINEERING

Volunteer for tutor service,

Arrange for a guest speaker,

Share your visitation with other members of the class,

Use of computer at Akron University,

Conduct a science teaching laboratory experience for junior high or elementary students,

Prepare a science fair demonstration,

Invite an attorney -- discuss legal aspects,

Rapid reading tapes -- use them to improve your speed,

Visit banking institutions,

Visit to college financing departments,

Visit to psychological testing area,

Visit to Credit Bureau to discuss credit ratings,

Invite foreign language curriculum specialist to discuss value of foreign language,

Bring in someone from International Division of industry,

Visit to Akron Bar Association,

Visit Laicon Corporation of Ohio,

Visit potential college of your choice,

Take a course at Akron University in their particular interest area,

Visit various community professional organizations,

Visit a testing lab -- paint, chemicals, etc,

Invite a person in to discuss ecology and technocracy,

ENGINEERING

The student be actually involved in the programming phase.

Working with an actuary -- will be an insurance company.

Working with either some industry or government agency in collecting data -- statistician.

Experience in an architecture firm.

Shadow -- civil engineer, electrical engineer, mechanical engineer, chemical engineer, industrial engineer.

Visit observatories.

Interview mathematicians in the various industrial firms, such as Firestone and Goodyear.

Various construction companies.

Visit various engineering divisions of Akron University, Kent, Case.

Visit City of Akron Engineering, Street, Maintenance and Traffic divisions.

Visit research and development departments of the various firms in the area.

Visit Nassa Space Center at Cleveland.

Visit the Wooster Agricultural Center.

Visit a large marketing and distribution center.

Visit the water treatment distribution plant -- Rockwell.

Visit Botaum Disposal Plant.

Visit an automobile plant -- Lordstown, Hudson, Twinsburg, Cleveland.

Visit airport facility -- air traffic control.

Visit a broadcasting studio -- WAKR, Humbard Cathedral -- electronics.

Investigate nuclear engineering progress.

Work with a surveyor.

Mechanical contact -- plumbing, air conditioning, heating.

Visit Manpower Training Center.

Attend a meeting of the Engineering Society.

Discuss offshore navigation or flight navigation.

Visit Stan Hywet.

Visit Ohio Bell laboratory.

Visit steel foundaries -- Youngstown, Canton, Cleveland.

Visit plastic centers.

Visit trucking industries.

Visit the mathematics department at Akron University.

Visit with the School Architect in one of the new buildings -- like Barrett.

Visit a rubber plant where they build and test tires.

Visit metallurgical system, petroleum industry.

Take a look at F.B.I. lab in Cleveland.

Visit to Parade of Homes -- home building.

Visit ceramic foundry - Ohio Brass.

Visit Ohio Edison -- electronic engineers.

Visit consumer products institute.

Visit Akron Rubber Development Lab -- Kenmore Blvd.

Visit Metro System.

Visit commercial testing and engineering company.

Invite a person in to discuss nuclear power in the navy.

Talk with politician -- how engineers might become involved in political aspects.

Talk to Akron traffic engineer.

Visit Garfield High and work with the computer terminal.

Visit Akron Public School data processing center.

Visit County Engineering office.

CAREER CLUSTERS - (cont'd.)

Medicine & Health

Audiology
Dentistry
Hospital Administration
Medical Dietetics
Medical Technology
Medicine
Nursing
Optometry
Pharmacology
Speech Pathology
Therapy/Physical, Occupational
Veterinary Medicine

Performing Arts

Acting
Composing
Dancing
Dramatics
Music
Program Direction
Song Writing

Social Sciences

Economics
Education/Teaching, Administration, Counseling
Governmental Services
Law
Law Enforcement
Library Science
Religion, Theology
Social Work
Sociology
Urban Planning

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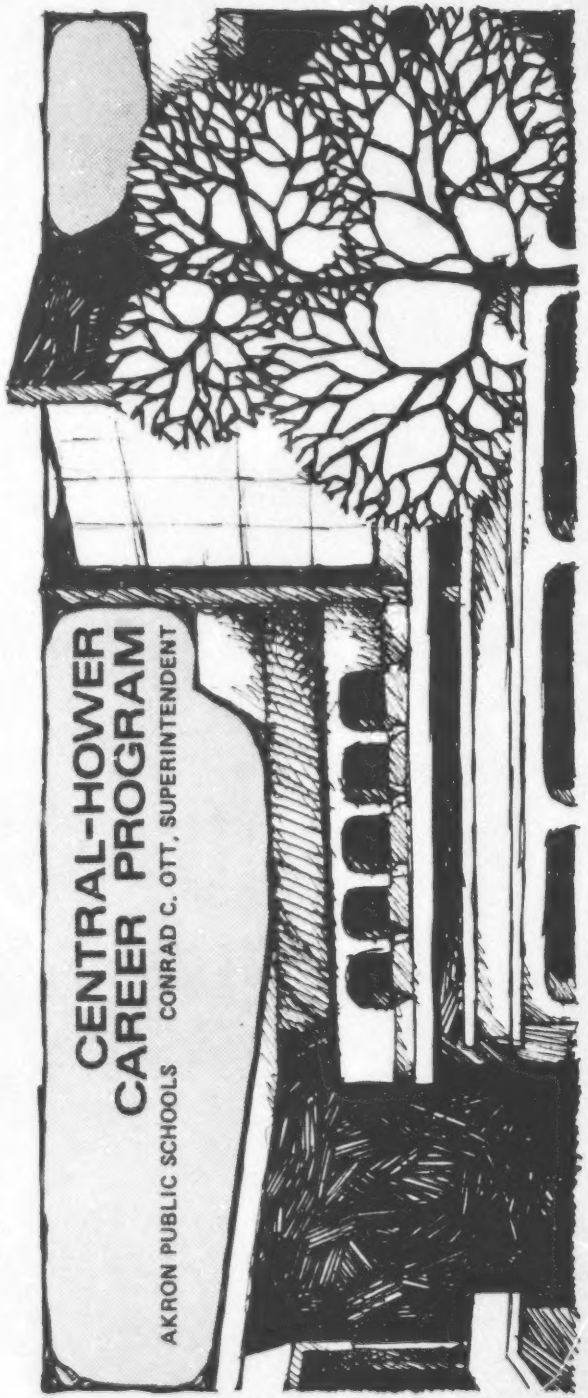

CENTRAL-HOWER CAREER PROGRAM

AKRON PUBLIC SCHOOLS CONRAD C. OTT, SUPERINTENDENT

CAREER EXPLORATORY PROGRAM . . .

A new program combining academic studies with career exploration experiences will be offered at Central-Hower High School during the 1975-1976 school year.

The Career Exploratory Program will provide for the study of technical and professional careers which require additional schooling beyond high school. Studies will be organized around six clusters of careers with each cluster encompassing related occupational areas.

The two-year program will be open to high school juniors and seniors. They will select one of the six career clusters for concentrated study. A pre-exploratory survey course covering all of the clusters will be open to sophomores who expect to take a college preparatory program.

The curriculum is designed to help participating students:

- gain in-depth exposure to a variety of occupations related to a selected career cluster.
- understand more fully the personal, social and economic significance of these occupations.
- make a more realistic career decision about a technical or professional career based upon current information.
- enter college or technical school better informed and prepared to pursue educational studies leading to careers in one of the six cluster areas.

The Career Exploratory Program is activity-centered, combining classroom instruction with field experiences. Academic studies and career guidance will be meshed into a core program spanning three to four periods.

The curriculum of each career cluster will include the two major subject areas of most importance to the cluster along with related career experiences. Studies will be scheduled to provide team teaching in the major subject areas.

In brief, the career cluster approach will attempt to build:

Understanding and Skills

Academic studies will be integrated with the exploration of career goals. Students involved in these programs will receive regular academic credit toward graduation requirements.

Career Development Experiences

Exploratory career development activities will be an important aspect of the program. Typical activities will include:

- Field observations
- Classroom demonstrations and discussions by guest speakers.
- Practical experiences at career stations.
- Individual and group counseling on academic and career concerns.

CAREER CLUSTERS

Business Administration & Management

Accounting
Advertising
Auditing
Banking
Computer/Programming, Servicing, Technical Services, Analysis
Hotel-Motel Management
Insurance/Examining, Underwriting, Agency Work
Personnel/Placement
Public Relations
Purchasing
Sales Management
Secretarial Science

Communication Arts

Interpreting/Translating
Journalism/Reporting, Editing, News Analysis
Photography
Play-writing
Poetry
Radio-TV Announcing
Radio, TV, and Motion Picture
Writing/Freelance, Literary

Engineering Science & Math

Agricultural Science
Architecture
Astronomy
Biology
Chemistry
Engineering/Industrial, Agricultural, Aeronautical, Civil Mechanical, Metallurgical
Farm Management
Forestry
Geography
Geology
Industrial Design
Landscape Architecture
Meteorology
Physics
Statistics
Surveying
Systems Analysis, Programming
Zoology